Claims

[c1] A surface drying system comprising: a water-impermeable membrane having an upper side, a lower side, and a perimeter; a port within the membrane, the port configured to allow water and air to pass from the lower side to the upper side of the membrane; a vacuum source connected with the port; and a grid associated with the lower side of the membrane, the grid being configured to provide a plurality of passageways permitting the travel of air and water between the surface and the membrane from locations distant from the port toward the port when the membrane is placed adjacent the surface wherein the vacuum source creates an enclosure of negative pressure within the perimeter of the membrane and urges water to flow through the passageways towards the vacuum source to effect moisture removal.

[c2] The system of Claim 1 wherein the grid is formed separately from the membrane.

[c3] The system of Claim 2, wherein the grid further comprises a plurality of strands.

[c4] The system of Claim 3, wherein the membrane is a plas-

tic sheet.

[c5] The system of Claim 1 wherein the port includes a manifold, the manifold having at least one nozzle, the first end of the nozzle connectable in fluid communication with the vacuum source and the second end of the nozzle in fluid communication with the port.

[c6] The system of Claim 1 wherein the perimeter of the membrane is sealed to the surface with tape.

[c7] A surface drying system comprising: a grid placed over a surface to be dried; a vacuum source; a manifold having a nozzle, the nozzle having a first end and a second end, the first end of the nozzle being connectable in fluid communication with the vacuum source, the second end in fluid communication with the grid; and a water-impermeable membrane sealed around the first end of the nozzle, the manifold and the grid, the membrane further having a perimeter being sealed to the surface, wherein when the manifold is exposed to the vacuum source the vacuum source creates an enclosure of negative pressure within the perimeter of the sealed membrane and urges the membrane toward the grid, further urging water to flow through the grid toward the second end of the nozzle to effect moisture removal.

[c8] The system of Claim 7, wherein the grid includes a first plurality of strands and a second plurality of strands, the first plurality of strands being superimposed over the second plurality of strands to create interstitial spaces.

[c9] A surface drying system comprising: a grid placed over a surface to be dried, the grid having a first plurality of strands and a second plurality of strands, the first plurality of strands being superimposed over the second plurality of strands to create spaces between the strands; a manifold placed over the grid, the manifold having at least one nozzle having a first end and a second end, the first end being connected with a vacuum source, the second in fluid communication with the grid; and an impermeable membrane sealed around the first end of the at least one nozzle, the manifold and the grid, the perimeter of the impermeable membrane being sealed to the surface, wherein the manifold is exposed to the vacuum source to create an enclosure of negative pressure within the perimeter of the sealed plastic sheet and causes the sheet to collapse onto the grid, whereby the negative pressure causes water to flow through the spaces to the second end of the nozzle to effect moisture removal underneath and from the surface.

[c10] A method for removing moisture, the method comprising: connecting a vacuum source to a first end of a flexi-

ble hose, the flexible hose having a second end; placing a grid having a plurality of strands over the surface, the plurality of stands forming spaces in a lattice formation; placing a manifold having a port and an orifice, the orifice positioned into the grid; connecting the second end of the flexible hose to the port of the manifold; placing an impermeable membrane over the surface and around the manifold; sealing the manifold to the impermeable membrane; sealing the perimeter of the impermeable membrane to the surface; and engaging the blower to apply the vacuum, creating within the sealed impermeable membrane an enclosure of negative pressure, the enclosure of negative pressure being restrained from completely collapsing onto the surface by the grid, the enclosure of negative pressure causing water to flow through the spaces in the lattice formation and towards the orifice of the manifold and to the blower, thereby effecting moisture removal underneath and from the surface.

[c11] The method of Claim 10, wherein the impermeable membrane assumes a lattice formation by pressing against the grid.

[c12] The method of Claim 11, wherein the impermeable membrane is a plastic sheet.

[c13] A surface drying system comprising: a grid placed over a surface, the grid configured to form a lattice formation, the lattice formation providing spaces; a manifold placed over the grid, the manifold having at least one nozzle having a first end and a second end, the first end being connected with a vacuum source, the second end pointed toward the grid; and an impermeable membrane placed around the first end of the at least one nozzle, the manifold, and the grid, the perimeter of the impermeable membrane being sealed to the surface, wherein the manifold is exposed to the vacuum source to create an enclosure of negative pressure within the perimeter of the sealed impermeable membrane and causes the membrane to collapse onto the grid, whereby the negative pressure causes water to flow through the spaces within the lattice formation to the second end of the nozzle to the vacuum source to effect moisture removal underneath and from the surface.

[c14] The system of Claim 13 wherein the grid includes a first plurality of strands and a second plurality of strands, the first plurality of strands superimposing over the second plurality of strands to create the spaces.

[c15] The system of Claim 14 wherein the impermeable membrane assumes a lattice formation by pressing against the grid.

[c16] The system of Claim 15 wherein the impermeable membrane is a plastic sheet.

[c17] A surface drying system comprising: a grid placed over a surface, the grid having a first plane of strands and a second plane of strands, the first plane of strands being superimposed over the second plane of strands to create spaces between the strands and between the planes to form a lattice formation; a manifold placed over the grid, the manifold having at least one nozzle having a first end and a second end, the first end connectable with a vacuum source, the second end in fluid communication with the grid; and an impermeable membrane sealed around the first end of the at least one nozzle, the manifold and the grid, the perimeter of the impermeable membrane being sealed to the surface, wherein the manifold is exposed to the vacuum source to create an enclosure of negative pressure within the perimeter of the sealed impermeable membrane and causes the membrane to collapse onto the grid, whereby the negative pressure causes water and air to flow through the spaces to the second end of the nozzle to the vacuum source to effect moisture removal underneath and from the surface.

[c18] The system of Claim 17, wherein the lattice formation

provides spaces between the impermeable membrane and the surface whereby negative pressure causes air and moisture to pass between the first and second planes.

[c19] The system of Claim 18, wherein the impermeable membrane assumes a lattice formation by pressing against the grid.

[c20] The system of Claim 19 wherein the impermeable membrane is a plastic sheet.